Remarks

The noted Office Action was issued after a remand by the Board of Patent Appeals and Interferences. In that remand, after appeal of a rejection under § 112, first paragraph, the Board held:

> We remand this application to the examiner to determine if the above-noted rejection of claims 1 and 3 to 8 is appropriate in view of the subject matter of claims 1 to 8 as originally filed in the application. In this regard, we note that each specific limitation which the examiner has found to lack proper support in the originally filed specification appears to find proper support in the originally filed claims which are part of the originally filed specification. If the examiner determines that the rejection is not appropriate, the examiner should withdraw the rejection. If the examiner determines that the rejection is still appropriate, the examiner should provide a detailed explanation as to why current claims 1 and 3 to 8 do not find written description support as required by the first paragraph of 35 U.S.C. § 112 in claims 1 to 8 as originally filed.

Pages 3 to 4 of Board's Remand mailed April 25, 2002.

In the most recent Action, the Examiner maintained the rejection of claims 1 and 3-8 under § 112, first paragraph. And, the Examiner rejected those claims under § 102(b) as anticipated by EP 633,043 to Higuchi.

In view of the clarifying explanations set forth below, Applicant respectfully submits that all claims 1 and 3-8 are in condition for allowance.

A. The Rejection Under § 112, First Paragraph Is Improper and Must Be Withdrawn

For some reason, the Examiner continues to maintain the rejection of claims 1 and 3-8 under § 112, first paragraph. Apparently, the Examiner continues to believe that literal one-to-one correspondence between claims and specification is required. Specifically, in this latest Action, the Examiner asserted:

> Claim 1 – the core with a specific gravity less than 1.4 is non-enabling. Applicant discloses a specific gravity of 1.47 and 1.17, one of which is over the 1.4 limitation. The remaining values in the range is non-enabling subject matter. The limitation requires the specific gravity to be less than 1.4 or from 0. to 1.4. The specific gravity of the intermediate layer is not enabling. The claim requires the intermediate layer to be less than 1.2. Applicant discloses values of 1.3, 0.95, 0.953, and 0.960 for the specific gravity being less than 1.2. Obviously 1.3 is outside the range in question. The values 0.953 and 0.960 cited on page 24 of the specification are specific gravity values for the base ionomer and not the actual composition of the intermediate layer. Therefore the only value relevant to the intermediate layer having a specific gravity less than 1.2 is the value 0.95. The JIS-C hardness from 85 to 89.9 of the intermediate layer is not enabling.

> Applicant discloses a Shore D hardness of at least 60, which converts to approximately 90 on the JIS-C scale.
>
> Claim 6 – the difference of 0.1 to 0.5 between the core and the intermediate layer specific gravity is not enabling. Again values within the claimed range have been shown but the entire range is not enabling.

Page 3 of Action mailed May 28, 2002.

There are several deficiencies in the Examiner's rejection. First, it is apparent that the Examiner has merely recast the previous "written description" § 112 rejection as a "non-enablement" § 112 rejection. In view of the MPEP's explanation on this matter, the Examiner is respectfully urged to reconsider this ground of rejection:

> Furthermore, when the subject matter is not in the specification portion of the application as filed but is in the claims, the limitation in and of itself may enable one skilled in the art to make and use the claim containing the limitation. When claimed subject matter is only presented in the claims and not in the specification portion of the application, the specification should be objected to for lacking the requisite support for the claimed subject matter using Form Paragraph 7.44. See MPEP § 2163.06. This is an objection to the specification only and enablement issues should be treated separately.

MPEP § 2164, p. 2100-174.

In the event that the Examiner continues to maintain this ill-advised view, Applicant submits that one skilled in this field of art would be able to make and use the claimed invention using the present application as a guide, and therefore, the enablement requirement is satisfied.

The standard for determining whether the specification meets the enablement requirement was set forth in *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916), as "is the experimentation needed to practice the invention undue or unreasonable?" And, according to § 2164.01 of the MPEP, this standard is "still the one to be applied." See *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). "The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." See *United States v. Telectronics, Inc.*, 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988).

The Examiner's assertions in the present case concerning non-enablement are directed to certain values of specific gravity and hardness. That is, the Examiner contends that although certain specific gravity values (such as for the core and base ionomer) are enabled, other specific gravity values are not enabled. And, with regard to hardness values, the Examiner contends that some hardness values (such as for the intermediate layer) are enabled, while others are not enabled.

Applicant questions how some specific gravity and hardness values recited in the claims can be enabled, while other specific gravity and hardness values are not enabled? It is well known in this field of art how to adjust the specific gravity and hardness value of a material or component of a golf ball. And so, it follows that if some specific gravity and hardness values are enabled, then so, too, are the remaining specific gravity and hardness values.

In fact, the present application itself refers to prior art blending techniques for adjusting hardness of a material for use in a golf ball:

> In various attempts to produce a durable, high spin ionomer golf ball, the golfing industry has blended the hard ionomer resins with a number of softer ionomeric resins. U.S. Patent Nos. 4,884,814 and 5,120,791 are directed to cover compositions containing blends of hard and soft ionomeric resins. The hard copolymers typically are made from an olefin and an unsaturated carboxylic acid. The soft copolymers are generally made from an olefin, an unsaturated carboxylic acid, and an acrylate ester. It has been found that golf ball covers formed from hard-soft ionomer blends tend to become scuffed more readily than covers made of hard ionomer alone.

Page 5 of the present application.

Further descriptions of tailoring the hardness of a golf ball layer are provided in the present application, such as on pages 14-15:

> An additional comonomer such as an acrylate ester (i.e. iso – or n-butylacrylate, etc.) can also be included to produce a softer terpolymer.

In addition, various commercially available ionomers are described throughout the present application in which the ionomers differ according to hardness, specific gravity, and other properties. A skilled artisan would be able to select one or more of these materials to make and use the subject matter of the claims at issue without undue experimentation.

The present application continues and provides extensive teachings as to modifying the hardness of one or more ionomers that may be used in the claimed golf balls:

> The softening comonomer that can be optionally included in the inner cover layer for the golf ball of the invention may be selected from the group consisting of vinyl esters of aliphatic carboxylic acids wherein the acids have 2 to 10 carbon atoms, vinyl ethers wherein the alkyl groups contains 1 to 10 carbon atoms, and alkyl acrylates or methacrylates wherein the alkyl group contains 1 to 10 carbon atoms. Suitable softening comonomers include vinyl acetate, methyl acrylate, methyl methacrylate, ethyl acrylate, ethyl methacrylate, butyl acrylate, butyl methacrylate, or the like.

Page 22 of the present application.

> In some circumstances, an additional comonomer such as an acrylate ester (i.e., iso- or n-butylacrylate, etc.) can also be included to produce a softer terpolymer.

Page 28.

In describing various blends and compositions for forming an outer cover layer, specific softening agents and moieties are noted:

> Preferably, the acrylate ester-containing ionic copolymer or copolymers are terpolymers, but additional monomers can be combined into the copolymers if the monomers do not substantially reduce the scuff resistance or other good playability properties of the cover.
>
> For a given copolymer, the olefin is selected from the group consisting of olefins having 2 to 8 carbon atoms, including, as non-limiting examples, ethylene, propylene, butene-1, nexene-1 and the like. Preferably the olefin is ethylene.
>
> The acrylate ester is an unsaturated monomer having from 1 to 21 carbon atoms which serves as a softening comonomer. The acrylate ester preferably is methyl, ethyl, n-propyl, n-butyl, n-octyl, 2-ethylhexyl, or 2-methoxyethyl 1-acrylate, and most preferably is methyl acrylate or n-butyl acrylate. Another suitable type of softening comonomer is an alkyl vinyl ether selected from the group consisting of n-butyl, n-hexyl, 2-ethylhexyl, and 2-methoxyethyl vinyl ethers.

Page 32.

In further describing blending of materials, varying hardness ranges are noted as:

> The one or more acrylate ester-containing ionic copolymers each has an individual Shore D hardness of about 5-64. The overall Shore D hardness of the outer cover is 55 or less, and generally is 40-55. It is preferred that the overall Shore D hardness of the outer cover is in the range of 40-50 in order to impart particularly good playability characteristics to the ball.

Page 33.

Additionally, adjusting the degree of neutralization of materials and their blends is described as a technique for adjusting hardness:

> The acid groups of these materials and blends are neutralized with one or more of various cation salts including zinc, sodium, magnesium, lithium, potassium, calcium, manganese, nickel, etc. The degree of neutralization ranges from 10 – 100%. Generally, a higher degree of neutralization results in a harder and tougher cover material.

Page 34.

A specific technique for attaining a particular degree of neutralization is also set forth in the present application:

> The amount of metal cation salt utilized to produce the neutralized ionic copolymers is the quantity which provides a sufficient amount of the metal cations to neutralize the desired percentage of the carboxylic acid groups in the high acid copolymer. When two or more different copolymers are to be used, the copolymers can be blended before or after neutralization. Generally, it is preferable to blend the copolymers before they are neutralized to provide for optimal mixing.

Page 34-35.

Yet another technique for adjusting hardness or softness is described as simply adding a softening agent:

> Moreover, the cover compositions of the present invention may also contain softening agents such as those disclosed in U.S. Patent Nos. 5,312,857 and 5,306,760, including plasticizers, metal stearates, processing acids, etc., and reinforcing materials such as glass fibers and inorganic fillers, as long as the desired properties produced by the golf ball covers of the invention are not impaired.

Pages 35-36.

Further teachings of adjusting hardness by tailoring the proportions of materials in a blend are noted in the application as:

> Soft ionomers primarily are used in formulating the hard/soft blends of the cover compositions. These ionomers include acrylic acid and methacrylic acid based soft ionomers. They are generally characterized as comprising sodium, zinc, or other mono-or divalent metal cation salts of a terpolymer of an olefin having from about 2 to 8 carbon atoms, methacrylic acid, acrylic acid, or another α, β-unsaturated carboxylic acid, and an unsaturated monomer of the acrylate ester class having from 1 to 21 carbon atoms. The soft ionomer is preferably made from an acrylic acid base polymer in an unsaturated monomer of the acrylate ester class.

Page 37.

> The hard ionomeric resins are likely copolymers of ethylene and acrylic and/or methacrylic acid, with copolymers of ethylene and acrylic acid being the most preferred. Two or more types of hard ionomeric resins may be blended into the outer cover layer compositions in order to produce the desired properties of the resulting golf balls.

Page 41.

> It has been determined that when hard/soft ionomer blends are used for the outer cover layer, good results are achieved when the relative combination is in a range of about 3-25 percent hard ionomer and about 75-97 percent soft ionomer.

Page 44.

Specific teachings for adjusting the hardness and weight (and thus specific gravity) of the core are provided on pages 46 and 47:

> To achieve higher coefficients of restitution and/or to increase hardness in the core, the manufacturer may include a small amount of a metal oxide such as zinc oxide. In addition, larger amounts of metal oxide than are needed to achieve the desired coefficient may be included in order to increase the core weight so that the finished ball more closely approaches the U.S.G.A. upper weight limit of 1.620 ounces. Non-limiting examples of other materials which may be used in the core composition including compatible rubbers or ionomers, and low molecular weight fatty acids such as stearic acid.

Additionally, core modifications are described as:

> In addition, larger amounts of metal oxide than those that are needed to achieve the desired coefficient are often included in conventional cores in order to increase the core weight so that the finished ball more closely approaches the U.S.G.A. upper weight limit of 1.620 ounces. Other materials may be used in the core composition including compatible rubbers or ionomers, and low molecular weight fatty acids such as stearic acid.

Page 48.

In the discussion of methods of making the present invention golf balls, it is further noted that various additives may be used in forming particular components of the golf ball:

> If necessary, further additives such as an inorganic filler, etc., may be added and uniformly mixed before initiation of the molding process. A similar process is utilized to formulate the high acid ionomer resin compositions used to produce the inner cover layer.

Page 50.

In view of the foregoing, it is respectfully submitted that sufficient description is provided in the present application to enable an artisan in this field to make the golf balls of claims 1 and 3-8, without undue experimentation.[1]

B. The Rejection Under § 102 Is Improper and Must Be Withdrawn

The Examiner rejected claims 1 and 3-8 under § 102 based upon EP 633,043 to Higuchi. This rejection is based upon the incorrect assumption that the pending claims are only entitled to the filing date of the present application which is September 10, 1997.

The present application claims priority upon an application that was filed prior to the earliest effective date of the EP 633,043 document cited by the Examiner. The present application claims priority upon U.S. serial No. 08/070,510 filed June 1, 1993, now abandoned. That application significantly predates the earliest date of the EP '043 application, which is January 11, 1995.

The EP '043 document and its U.S. equivalent U.S. Patent 5,553,852 have been of record in the present application for years. Those documents were cited in an information disclosure statement filed on April 8, 1999 by Applicant.

C. Conclusion

In view of the foregoing, it is respectfully submitted that claims 1 and 3-8 are in condition for allowance.

Respectfully submitted,

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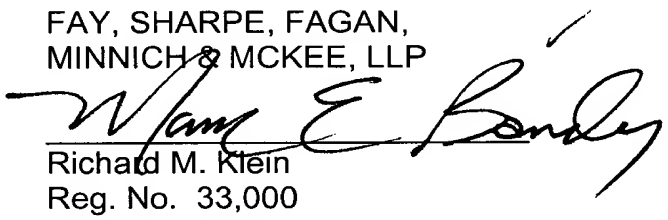

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[1] Applicant respectfully directs the Examiner's attention to § 2164.05 of the MPEP where it is noted "The examiner should never make the determination [of enablement] based on personal opinion." (Bracketed text added, emphasis in original.)